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EXAMINER
CHANKONG, DOHM

ART UNIT	PAPER NUMBER
2152	

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/844,759	Applicant(s) GARCIA-LUNA-ACEVES ET AL.	
	Examiner Dohm Chankong	Art Unit 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>27 July 2005</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,2, 5-8 and 10-15</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,2,5-8 and 10-15</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1>   This action is in response to Applicant's remarks. Claims 1, 2, 5-8 and 10-15 are

presented for further examination.

2>   This is a final rejection.

Response to Arguments

3>   Applicant's arguments filed 7.27.2005 in regards to claims 1, 2, 5-8, 10 and 11 have been

fully considered but they are not persuasive.

Applicant is arguing in substance (a) that the prior art references Yamano and

McCanne are directed towards different methods of redirection. Based on this assertion,

Applicant concludes that their combination would be "questionable" and there is a lack of

motivation to combine; and (b) Applicant argues that the references provide a "complete"

solution and nothing in their disclosures suggest additional steps to improve their techniques.

In regards to (a), Examiner disagrees with Applicant's interpretation of the

references. Applicant points to [column 4 «lines 31-34»] of Yamano to support the

interpretation that Yamano "uses only anycast addressing and not unicast addressing to

identify the next available server". However, Examiner interprets the referenced section in a

different way; Yamano discloses that ATM address resolution is performed by transmitting

an anycast address. An ATM address of a source server is provided in response to the

transmission of the anycast address. Nowhere in Yamano does he disclose that "only"

anycast addressing is utilized. Anycast addresses are well known in the art; an anycast

address is simply a unicast address that is shared among several devices within a group.

Yamano clearly discloses that the servers within his system have different ATM addresses,

and the purpose of the ATM address resolution process is to discover the specific ATM

addresses of each server [column 4 «lines 9-18»]. Thus, the ATM addresses of the servers

cannot be considered anycast addresses and are unicast addresses. Therefore, Yamano's

ATM address resolution, where an ATM (unicast) address is returned in response to anycast

address, is similar to functionality disclosed in McCanne where an anycast address is

resolved to a unicast address.

In regards to (b), Applicant's arguments are not persuasive. As described in the

previous action, McCanne discloses his repository is capable of directly servicing the clients'

requests but does not explicitly disclose that the repository obtains a copy at the

corresponding unicast address [column 14 «lines 27-32» | column 16 «lines 3-11»]. Thus,

McCanne implicitly suggests functionality that enables a first-contacted (nearest) repository

to directly service a request but is deficient in describing how this can be achieved. Yamano's

redirection technique supplements McCanne's implicit functionality, enabling the first-

contacted repository to directly service the client's request by contacting other repositories

that contain the requested information if the first-contacted repository does not have the

information. That is, based on Yamano's teachings, McCanne is improved by enabling his

repository to obtain a copy of the requested information at a unicast address at a different

repository when the repository does not have the requested information. This functionality

is already suggested by McCanne, and Yamano simply discloses the functionality explicitly.

Further, Yamano's invention is clearly directed towards improving the kind of anycast

networks utilized in McCanne [see column 1 «lines 31-37»].

Based on the aforementioned remarks, Examiner believes that the combination of

McCanne and Yamano is proper. The claim rejections are therefore maintained.

4>   Claims 9 and 12-15 were not addressed in the Applicant's remarks.

Claim Rejections - 35 USC § 103

5>   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to a
> person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

6>   Claims 1, 2, 5, 6, 7, 8, 10 and 11 are rejected under 35 U.S.C § 103(a) as being anticipated

by McCanne et al, U.S Patent No. 6.415.323 ["McCanne"], in view of Yamano, U.S Patent

No. 6.314.088.

7>   As to claim 1, McCanne discloses a method comprising:

receiving a request at an information object repository for an information object at an

anycast network address and without regard as to whether the information object is actually

stored at the information object repository [column 8 «lines 14-23» | column 11 «lines 58-62»

where : McCanne's ARN and the service nodes are analogous to repositories. Additionally,

McCanne stresses that the only requirement for directing a client to a service node is that the

node is the closest to the client; therefore, the implication is that there is no regard as to

whether or not the content is on the service node].

   resolving the request to a corresponding unicast address for the information object

[column 11 «lines 60-62» | column 15 «line 61» to column 16 «line 12» where : McCanne's

service nodes have unicast addresses].

   McCanne does not explicitly disclose instructing the information object repository to

obtain a copy of the information object at the corresponding unicast address.

8>   McCanne does disclose that the repository is capable of servicing the clients' requests

directly but does not explicitly disclose obtaining a copy at the corresponding unicast address

[column 14 «lines 27-32» | column 16 «lines 3-11»]. Yamano discloses a repository (that

receives an request for an object at an anycast address) that obtains a copy of the requested

information object at a corresponding unicast address [Figure 5 | column 1 «lines 21-30» |

column 4 «lines 30-36» | column 5 «line 64» to column 6 «line 15» where : Yamano's

configuration server node 11 retrieves the object requested by the client from another server

node's ATM address (unicast)]. Therefore Yamano teaches that a repository, that acts as a

redirector such as one seen in McCanne, can also retrieve content from other repositories

within the network. One of ordinary skill in the art would have been able to incorporate

Yamano's functionalities into McCanne's repository (redirector) to allow the repository to

retrieve content from other repositories at the corresponding unicast address to be able to

directly service the request in the future. Since McCanne already teaches that his repository

can directly handle content requests, implementing Yamano's teaching would only enhance

McCanne's capabilities.

9>   As to claim 2, McCanne discloses the method of claim 1 further comprising returning

the unicast address for the information object [column 10 «lines 35-43»].

10>   As to claim 5, McCanne discloses the method of claim 1 wherein the information

object repository is selected according to performance metrics [column 18 «lines 64-67»].

11>   As to claim 6, McCanne discloses the method of claim 5 wherein the performance

metrics comprise one or more of: average delay from the selected information object

repository to a source of the request, average processing delay at the selected information

object repository, reliability of a path from the selected information object repository,

available bandwidth in said path, and loads on the selected information object repository

[column 17 «lines 45-46» | column 18 «lines 64-67»].

12>   As to claim 7, McCanne discloses an information object repository configured to

resolve a network layer anycast address to a network layer unicast address in response to a

request for an information object at the network layer anycast address [column 10 <lines 36-

50> where: anycast referral node is equivalent to an object repository].

        McCanne does not explicitly disclose that the repository obtains a copy of the

information object at the network layer unicast address.

13>   McCanne does disclose that the repository is capable of servicing the clients' requests

directly but does not explicitly disclose obtaining a copy at a corresponding unicast address

[column 14 «lines 27-32» | column 16 «lines 3-11»]. Yamano discloses a repository (that

receives an request for an object at an anycast address) that obtains a copy of the requested

information object at a network layer unicast address [Figure 5 | column 1 «lines 21-30» |

column 4 «lines 30-36» | column 5 «line 64» to column 6 «line 15» where : Yamano's

configuration server node 11 retrieves the object requested by the client from another server

node's ATM address (unicast)]. Therefore Yamano teaches that a repository, that acts as a

redirector such as one seen in McCanne, can also retrieve content from other repositories

within the network. One of ordinary skill in the art would have been able to incorporate

Yamano's functionalities into McCanne's repository (redirector) to allow the repository to

retrieve content from other repositories at the network layer unicast address to be able to

directly service the request in the future. Since McCanne already teaches that his repository

can directly handle content requests, implementing Yamano's teaching would only enhance

McCanne's capabilities.

14>   As to claim 8, McCanne discloses the information object repository of claim 7 being

further configured to resolve the network layer anycast address by transmitting a request for

the network layer unicast address and awaiting a response thereto [column 11 <lines 24-36 and

lines 58-65>, column 12 <lines 16-24> and column 13 <lines 35-42>].

15>   As to claim 10, McCanne discloses a network, comprising:

at least one client configured to transmit a request for an information object using a

network layer unicast address [column 10 ‹lines 36-43›]; and

an information object repository configured to receive the request for the information

object and to resolve the network layer anycast address into a network layer unicast address

[column 10 ‹lines 36-50›].

McCanne does not explicitly disclose that the repository obtains a copy of the

information object at the network layer unicast address.

16>   McCanne does disclose that the repository is capable of servicing the clients' requests

directly but does not explicitly disclose obtaining a copy at a corresponding unicast address

[column 14 «lines 27-32» | column 16 «lines 3-11»]. Yamano discloses a repository (that

receives an request for an object at an anycast address) that obtains a copy of the requested

information object at a network layer unicast address [Figure 5 | column 1 «lines 21-30» |

column 4 «lines 30-36» | column 5 «line 64» to column 6 «line 15» where : Yamano's

configuration server node 11 retrieves the object requested by the client from another server

node's ATM address (unicast)]. Therefore Yamano teaches that a repository, that acts as a

redirector such as one seen in McCanne, can also retrieve content from other repositories

within the network. One of ordinary skill in the art would have been able to incorporate

Yamano's functionalities into McCanne's repository (redirector) to allow the repository to

retrieve content from other repositories at the network layer unicast address to be able to

directly service the request in the future. Since McCanne already teaches that his repository

can directly handle content requests, implementing Yamano's teaching would only enhance

McCanne's capabilities.

17>   Claim 11 is a network that contains the information object repository of claim 8.

Therefore claim 11 is rejected for the same reasons as set forth in above paragraph 12 for claim

8.

18>   Claims 9 and 12-15 are rejected under 35 U.S.C 103(a) as being unpatentable over

McCanne and Yamano, in further view of an Official Notice.

19>   As to claim 9, McCanne discloses the information object repository of claim 7 to

monitor if the request for the network layer unicast address is not received within a timeout

period [column 13 <lines 35-36>] but does not specifically disclose that a failure message is sent

to the source of the request for the information object.

20>   Official Notice is taken that it is well known and expected in the art to update the

client about the failure of an information request, if that request is not received within a

certain timeout period. It would have been obvious to one of ordinary skill in the art at the

time the invention was made to implement this failure message utility into McCanne's

information object repository to keep the clients informed that their request for information

could not be handled at the specified unicast address and to signal to the user to reconnect to

the service after losing the connection.

21>   Claim 12 is a network that contains the information object repository of claim 9.

Therefore claim 12 is rejected for the same reasons as set forth in above paragraphs 18 and 19

for claim 9.

22>   As to claim 13, McCanne discloses the network of claim 12 wherein the request for the

network layer unicast address comprises a single IP packet that includes the network layer

anycast address [column 3 <lines 57-67> and column 12 <lines 25-30> where: the client request

510 refers back to the 'packet of data'].

23>   As to claim 14, McCanne discloses the network of claim 13 wherein the response to the

request for the network layer unicast address comprises a single IP packet that includes the

network layer unicast address [column 3 <lines 65-67> and column 11 <lines 60-62> where: the

redirect message is equivalent in functionality to the IP packet].

24>   As to claim 15, McCanne discloses the network of claim 14 wherein the response to the

request for the network layer unicast address is returned by a host having the network layer

unicast address [column 16 <lines 18-26> where: 'S" is the host with the network layer unicast

address].

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
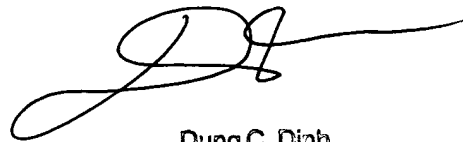
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3942. The examiner can normally be reached on 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571)272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status information

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access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

9197 (toll-free).

DC

Dung C. Dinh
Primary Examiner